

CORRECTED VERSION

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
1 July 2004 (01.07.2004)

PCT

(10) International Publication Number
WO 2004/056080 A1

(51) International Patent Classification⁷: **C07K 14/005**,
7/06, 19/00, C12N 15/63, 15/62, 15/33, A61K 38/08,
48/00

Joseph [US/US]; 18116 Coachmans Road, Germantown,
MD 20874 (US).

(21) International Application Number:
PCT/EP2003/014407

(74) Agent: GRUBB, Philip; Novartis AG, Corporate Intellectual
Property, CH-4002 Basel (CH).

(22) International Filing Date:
17 December 2003 (17.12.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,
GH, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LT, LU, LV, MA, MD, MK, MN, MX, NI, NO, NZ,
OM, PG, PH, PL, PT, RO, RU, SC, SE, SG, SK, SY, TJ,
TM, TN, TR, TT, UA, US, UZ, VC, VN, YU, ZA, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/434,258 18 December 2002 (18.12.2002) US

(84) Designated States (*regional*): Eurasian patent (AM, AZ,
BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE,
BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,
IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

(71) Applicant (*for all designated States except AT, US*): NO-
VARTIS AG [CH/CH]; Lichtstrasse 35, CH-4056 Basel
(CH).

Published:
— with international search report

(71) Applicant (*for AT only*): NOVARTIS PHARMA GMBH
[AT/AT]; Brunner Strasse 59, A-1230 Vienna (AT).

(48) Date of publication of this corrected version:
21 April 2005

(72) Inventors; and
(75) Inventors/Applicants (*for US only*): LIAU, Gene
[US/US]; 14900 Kelley Farm Drive, Darnestown, MD
20874 (US). STEFANSSON, Steingrímur [IS/US]; 5
Boxberry Court, Gaithersburg, MD 20879 (US). SU,

(15) Information about Correction:
see PCT Gazette No. 16/2005 of 21 April 2005, Section II

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: ENDOTHELIAL CELL SPECIFICALLY BINDING PEPTIDES

(57) Abstract: The present invention relates to peptides that specifically bind to endothelial cells. The peptides can be incorporated into gene delivery vector particles and can also direct therapeutic agents, including proteins such as growth factors and cytokines as well as small molecules. The vector particles, peptides, or small molecules can be used for the treatment of cancer and cardiovascular diseases such as ischemic heart disease, peripheral limb disease, vein graft stenosis and restenosis.